REGULATORY AND NON-REGULATORY APPROACHES
HIGH PRIORITY RECOMMENDATIONS

EDUCATION

✔   Expand public outreach and education at all levels
✔   Develop best practices guidance materials

MONITORING

✔   Require increased monitoring of dredge disposal areas
✔   Promote mandatory and standardized monitoring

PARTNERSHIPS

✔   Improve information sharing and collaboration between NGOs, with the media , and local, state, and federal agencies

FUNDING

✔   Increase funding for non-regulatory programs and sampling programs

REGULATIONS

✔   Establish regulations that provide more authority at the local level to control sources of E. coli, such as manure spreading
✔   Increase control of maintenance dredging
✔   Increase sampling of dredging projects

MODELING

✔   Expand the knowledge of beach conditions, including effects of local and lakewide physical processes on beaches, to enhance the use of predictive modeling

REGULATORY AND NON-REGULATORY APPROACHES

Following the Regulatory and Non-Regulatory Approaches Overview presentation, the audience broke into one of four groups:

- Roles of NGOs
- Regulations and Standards
- Non-Regulatory Approaches
- Lake Levels

Roles of NGOs

The breakout session began with a very brief overview of the roles of NGOs in beach management issues and then moved very quickly into brainstorming an extensive list of recommendations. These 21 recommendations are presented below.

1. Match funding sources with funding needs.

2. Identify sources of funding for labs and monitoring.

3. Identify sources of funding to provide signage at beaches.

4. Improve public outreach and communication, such as interpreting "risk" in terms the public can understand.

5. Improve education of and communication with public on health issues such as transmission of disease and personal hygiene.

6. Educate local governments and public employees (including life guards) on public health issues.

7. Improve general beach cleanliness.

8. Provide new technology for monitoring and predicting water quality.

9. Utilize existing information sources, such as local conservation districts, to identify problem areas and sources of contamination.

10. Apply the "Adopt-a-Stream" program across the watershed to other water bodies.

11. Improve information sharing a collaboration between NGOs, NGOs and government, and all levels of government (local to binational), with NGOs facilitating communication and partnerships.

12. Pressure local governments to establish mandatory monitoring programs and make all voluntary monitoring programs mandatory.

13. Voluntary monitoring programs should influence regulatory decisions.

14. Identify and determine data quality and uses for different types of data.

15.   Utilize GIS systems to gather, organize and disseminate monitoring and water quality data.

16.   Develop relationships with the media, educate them and focus their attention on the border issues associated with beach closings.

17.   Standardize sanitary surveys of beaches and make them an integral part of monitoring programs.

18.   Create a better definition of "beach", i.e., just water or sand/land and water.

19.   Involve NGOs in each state's beach listing and prioritization process.

20.   Address unmanaged beaches and develop best management practices for beaches.

21.   NGOs can hire independent scientists to collect data and conduct studies.

The group then categorized the recommendations into five categories: technology and monitoring, communication, education, resources, and "watchdog." After categorizing the recommendations, the group developed a high priority lis and a medium priority list.

HIGH PRIORITY

1.   **Funding**. (R3) Identify sources of funding to provide signage at beaches.

2.   **Public Outreach**. (R4) Improve public outreach and communication, such as interpreting "risk" in terms the public can understand.

3.   **Education**. (R5 and R6) Improve education of and communication with public on health issues such as transmission of disease and personal hygiene; and educate local governments and public employees (including lifeguards) on public health issues.

4.   **Cleanliness**. (R7) Improve general beach cleanliness.

5.   **Technology**. (R8) Provide new technology for monitoring and predicting water quality.

6.   **Existing Information**. (R9) Utilize existing information sources, such as local conservation districts, to identify problem areas and sources of contamination.

7.   **Adopt-A-Stream**. (R10) Apply the "Adopt-A-Stream" program across the watershed to other water bodies.

8.   **Partnerships**. (R11) Improve information sharing and collaboration between NGOs, NGOs and government, and all levels of government (local to binational), with NGOs facilitating communication and partnerships.

9.   **Mandatory Monitoring**. (R12) Pressure local governments to establish mandatory monitoring programs and make all voluntary monitoring programs mandatory.

10.   **Media Relations**. (R16) Develop relationships with the media, educate them and focus their

attention on the border issues with beach closings.

11.   **Sanitary Surveys**. (R17) Standardize sanitary surveys of beaches and make them an integral part of monitoring programs.

12.   **BMPs**. (R20) Address unmanaged beaches and develop best management practices for beaches.

MEDIUM PRIORITY

1.   **Funding**. (R1) Match funding sources with funding needs.

2.   **Funding**. (R2) Identify sources of funding for labs and monitoring.

3.   **Voluntary Monitoring**. (R13) Voluntary monitoring programs should influence regulatory decisions.

4.   **Data**. (R14) Identify and determine data quality and uses for different types of data.

5.   **GIS**. (R15) Utilize GIS systems to gather, organize and disseminate monitoring and water quality data.

6.   **Definition**. (R18) Create a better definition of "beach", i.e., just water or sand/land and water.

7.   **NGOs**. (R19) Involve NGOs in each state's beach listing and prioritization process.

8.   **Independent Scientists**. (R21) NGOs can hire independent scientists to collect data and conduct studies.

Regulations and Standards

The regulations and Standards Breakout Session was attended by about 60 people. Opening comments focused on the need for standardizing monitoring methodologies and looking for alternative regulatory controls to enhance beach protection. The following 10 recommendations were generated.

1.   Integrate other regulatory programs or approaches, such as water quality criteria, concentrated animal feeding operation (CAFO), regulation, and agricultural control programs into the beach program.

2.   Use other approaches to predict or assess beach conditions other than sampling results only; such as predictive modeling and beach design standards.

3.   Expand funding to finance increases in sampling; a well articulated, creative funding plan is needed to obtain political support.

4.   Need to standardize sampling and testing methodologies then mandate that they be performed.

5.   Encourage utilization of both geometric and arithmetic means of testing procedures on a compressed schedule to determine whether beach conditions warrant advisories or closures.

6.   Develop beach profiles and then use physical parameters which are predictive of beach conditions to close beaches. Use testing data to reopen beaches.

7.   Factor in weather conditions and sewer overflow events (CSO and SSO) when arriving at beach closure decisions.

8.   For individual operators, create a list of factors for consideration when making decisions about beach closures. Such factors should include; sanitary sewer breaks, siting of fecal situations, etc.

9.   Provide or create regulations that enable local authorities to stop or control sources of E. coli contamination such as manure. Local authorities need to be able to enforce land management practices. [Not to be confused with biosolids]

10.   Increase monitoring of Army Corps of Engineers (or other dredging authorities) disposal of dredged materials known or suspected of containing E. coli.

The group then consolidated recommendations 2,6,7 and 8 into and overall alternative monitoring approach recommendation. All recommendations were considered high priority.

HIGH PRIORITY

1.   **Beach Conditions**. (R2, R6, R7, and R8) Use other approaches to predict or assess beach conditions other than sampling results only; such as predictive modeling and beach design standards; develop beach profiles and use physical parameters; use testing data to reopen beaches; factor in weather conditions and sewer overflow events; and for individual operators, create a list of factors for consideration when making decisions about beach closures.

2.   **Funding Plan**. (R3) Expand funding to finance increases in sampling; a well articulated, creative funding plan is needed to obtain political support.

3.   **Standardization**. (R4) Need to standardize sampling and testing methodologies then mandate that they be performed.

4.   **Procedures**. (R5) Encourage utilization of both geometric and arithmetic means of testing procedures on a compressed schedule to determine whether beach conditions warrant advisories or closures.

5.   **Regulations**. (R9) Provide or create regulations that enable local authorities to stop or control sources of E. coli contamination such as manure. Local authorities need to be able to enforce land management practices. [Not to be confused with biosolids]

6.   **Monitoring**. (R10) Increase monitoring of Army Corps of Engineers (or other dredging authorities) disposal of dredged materials known or suspected of containing E. coli.

Non-Regulatory Approaches

About 20 to 25 people participated in the Non-Regulatory Approaches breakout session. After some opening remarks and discussion about non-regulatory approaches to protecting the population from

pathogen exposure, the group began brainstorming recommendations. Sixteen recommendations were originally proposed, with two of them ultimately being combined. The 15 recommendations being carried froward for prioritization are listed below.

1.   Promote ideas for developing operations and making changes through educating the public about dirty water overflows.

2.   Encourage volunteering of time to begin the process, recognizing that with such a commitment funding from grants and/or pledges will follow.

3.   Volunteer programs need part-time dedicated administrative support; some activities require funding.

4.   Establish geographical compact areas to maximize effectiveness of resources.

5.   Promote organizational membership that is consistent with the programs objectives.

6.   Focus program objectives on a few ideas to increase the likelihood of success.

7.   Choose ideas where successes can be achieved to develop and/or maintain program momentum.

8.   Establish and use steering committees (less than 25 people) to guide program direction.

9.   Programs should focus on prevention, not just remediation.

10.   Promote storm water controls.

11.   Partner with engineering firms and/or equipment vendors wanting to market devices that control storm water.

12.   Obtain lists of success stories or case studies from government sources to use as teaching and/or guidance.

13.   Explore sub-watershed planning as a more effective means to remediate problems.

14.   Educate for the organization is more effective when used in larger watershed planning.

15.   Establish alternate indicators of pathogen pollution, such as nitrogen or caffeine.

When the group began the process of prioritizing the above recommendations they realized that they had created a list of approaches/best practices for non-regulatory control. To enhance or further these approaches, funding is needed to further develop these ideas by researching successful projects and developing case studies that other non-regulatory programs can follow. Funding is also needed for the programs which are underway to increase the likelihood of success. As a result, there are essentially three high priority funding requests:

HIGH PRIORITY

1.   **Guidance Materials.** Develop how-to guidance materials based on research of successful

programs.

2.   **Funding**. Increase funding for non-regulatory programs.

3.   **Education and Public Outreach**. Promote education within the organizations and for the
       general public.

Lake Levels

About 30 people participated in the Lake Levels Breakout Session. The breakout session discussed how
short- and long-term variations in lake levels affect the near short environment. The group focused on the
need to develop better outreach, coordination of agencies, and identification of lake physical processes.
The following 14 recommendations were presented during the brainstorming.

1.   Educate the public and decision makers to understand that the natural conditions of shorelines
       change and will continue to change.

2.   Identify risk and consequences of dredging (for example, dredging may result in bacteria
       resuspension and may require more testing).

3.   Identify the sources of the nourishment sand that is deposited on beaches.

4.   Develop approach to minimize effects of holding sand on some beaches, which results in robbing
       sand from other beaches.

5.   Develop better coordination among lake regulatory agencies to minimize effects of fixing one
       area but hurting another area.

6.   Recognize importance of fluctuating lake levels on coastal wetlands.

7.   Explore need for more oversight of dredging from conception to implementation. All parties
       involved need to understand short-and long-term consequences.

8.   All NGOs, municipalities, and regulatory agencies need to be vigilant about watching for
       dredging projects and participating in public comment opportunities.

9.   Determine if a correlation exists between lake levels and beach closures and advisories.

10.   Identify effects of physical lake influences including circulation patterns, wind, barometric
       pressure, and rain events on the local and lakewide scale.

11.   Determine how physical processes on a local and lakewide level should be incorporated into
       monitoring decisions.

12.   Develop forecasting model based on, not only biological indicators, but physical processes.

13.   Increase control and command procedures on maintenance dredging (similar to environmental

dredging).

14.   Use current data from Macomb County, Lake St. Clair, southern Lake Michigan, and Lake Erie in a hydrodynamic model to gain a better understanding of the effect of physical processes on the near shore environment.

HIGH PRIORITY

Public Education

(R1)   Educate the public and decision makers to understand that the natural conditions of shorelines change and will continue to change.

Oversight of Dredging and Sand Nourishment

(R2)   Identify risks and consequences of dredging (for example, dredging may result in bacteria resuspension and may require more testing).

(R8)   All NGOs, municipalities, and regulatory agencies need to be vigilant about watching for dredging projects and participating in public comment opportunities.

Physical Processes

(R6)   Recognize importance of fluctuating lake levels on coastal wetlands.

(R9)   Determine if a correlation exists between lake levels and beach closures and advisories.

(R10)   Identify effects of physical lake influences including circulation patterns, wind, barometric pressure, and rain events on the local and lakewide scale.

(R11)   Determine how physical processes on a local and lakewide level should be incorporated into monitoring decisions.

(R12)   Develop forecasting model based on, not only biological indicators, but physical processes.

(14)   Use current data from Macomb County, Lake St. Clair, southern Lake Michigan, and Lake Erie in a hydrodynamic model to gain a better understanding of the effect of physical processes on the near shore environment.

Agency Coordination

(R4)   Develop approach to minimize effects of holding sand on some beaches, which results in robbing sand from other beaches.

(R5)   Develop better coordination among lake regulatory agencies to minimize effects of fixing one area but hurting another area.

MEDIUM PRIORITY

Oversight of Dredging and Sand Nourishment

(R7)   Explore need for more oversight of dredging from conception to implementation. All parties involved need to understand short-and long-term consequences.

(R13)   Increase control and command procedures on maintenance dredging (similar to environmental dredging).

LOW PRIORITY

Oversight of Dredging and Sand Nourishment

(R3)   Identify the sources of the nourishment sand that is deposited on beaches.